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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/529,949

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Takayoshi Mamine

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07/10/2009

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP

901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER

BABIC, CHRISTOPHER M

ART UNIT

PAPER NUMBER

1637

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<p align="center">Advisory Action Before the Filing of an Appeal Brief</p>	<p>Application No. 10/529,949</p>	<p>Applicant(s) MAMINE ET AL.</p>	
	<p>Examiner CHRISTOPHER M. BABIC</p>	<p>Art Unit 1637</p>	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 6/26/2009 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: _____.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Continuation Sheet.
12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____.
13. ☐ Other: _____.

/Christopher M Babic/
Examiner, Art Unit 1637

Continuation of 11. does NOT place the application in condition for allowance because: Applicant's arguments regarding the rejection of claims 1, 3, and 4 under USC 103(a) over Quate, Washizu, Wachter, and Daratchiev have been fully considered but are not persuasive.

With respect to Applicant's arguments regarding the teachings of Quate (see remarks pg. 3-4), the examiner acknowledged that Quate does not teach actively vibrating a cantilever (see pg. 3 of Office Action dated 4/29/09). Wachter provides a supportive disclosure that teaches actively vibrating and exciting a coated cantilever with a driving force (fig. 1, 10, 12, 14; col. 1, lines 45-end, for example).

With respect to Applicant's arguments regarding the teachings of Washizu (see remarks pg. 4-6), the reference expressly recites that, "This technique can be used for any long polymers and will have many applications in biomolecular researches. It may be used to achieve neat alignment of molecules on a substrate (pg. 1171, col. 1)." As the examiner understands Washizu, an artisan of ordinary skill in the art would have seen the benefit of applying a non-uniform electric field to cantilever-immobilized oligonucleotides such as those in Quate to neatly align such oligonucleotides for subsequent hybridization.

With respect to Applicant's arguments regarding hindsight reasoning (see remarks pg. 6-9), it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In the instant case, the prior art taught each of the elements combined by the examiner. For example, Quate teaches methods for detecting hybridization of target nucleic acids utilizing a cantilever comprising immobilized oligonucleotides. Washizu provides a supportive disclosure that teaches the application of an uneven electric field to immobilize and stretch DNA molecules. Wachter provides a supportive disclosure that teaches actively vibrating and exciting a coated cantilever with a driving force. Daraktchiev provides a supportive disclosure that teaches determining the resonance frequency of the free end of the cantilever by measuring an output voltage of the piezo-resistive detector element as a function of the frequency of the applied alternating current.

With respect to Applicant's arguments regarding a reasonable expectation of success, Applicant is reminded that obviousness does not require absolute predictability (see MPEP 2143.02). In the instant case, the examiner is asserting that an artisan of ordinary skill in the art could have combined the prior art elements to yield predictable results (see MPEP 2143). The examiner acknowledges that Quate as well as Wachter utilize a laser within their respective techniques to measure movement of a cantilever. However, the examiner is asserting that it would have been obvious to implement the detection techniques of Daratchiev in place of the laser techniques used in Quate. In other words, it would have been clear to an artisan at the time of invention that a laser-based detection was not the only acceptable method of detection within this particular art. Similar reasoning applies to the teachings of Wachter, who demonstrate actively vibrating a cantilever. Furthermore, it is asserted that an artisan would have understood that the non-uniform electric field would have been combinable with the non-laser based detection methods of Daraktchiev.

If Applicant intends to assert that the above combination has given unexpected results, then proper evidence is necessary to support such a claim. Attorney argument does not replace evidence where evidence is necessary (see MPEP 2145).